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INFORMATION DISCLOSURE TRANSMITTAL	Docket No. P8316-US-NP

Applicant:	Alexander T. Garthwaite
Serial No:	10/679,559
Filed:	October 6, 2003
For:	CONCURRENT NON-INSTUSIVE PROCESSING OF A CARD TABLE SUMMARIZING MODIFIED REFERENCE LOCATIONS
Examiner:	Not Yet Assigned
Art Unit:	2818

CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)

The undersigned hereby certifies that this document is being placed in the United States mail with first-class postage attached, addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on December 15, 2005.

Jan L. Mellen

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

In keeping with the duty of candor and good faith owed to the Patent and Trademark Office, Applicant wishes to bring information to the attention of the Examiner. The filing of this statement shall not be construed as a representation that a search has been made or as an admission that this information is, or is considered to be, material to patentability as defined in 37 C.F.R. §1.56(b).

Enclosures

☒ A form PTO-1449 listing this information is attached
☒ Copies of documents cited, other than U.S. patents and published U.S. patent applications, are enclosed.
☐ Copies of the cited documents are not enclosed because   .

Fees

☒ This statement is filed before the later of: (1) three months of (i) the filing of a national application or (ii) the entry date for the national stage of an international application; (2) the mailing date of a first office action on the merits; or (3) the mailing date of a first office action on the merits following the filing of a Request for Continued Examination. No fee is due.

☐ This statement is filed before the mailing date of a final office action, a notice of allowance or an action that otherwise closes prosecution, *and*
    ☐ The submission fee of $180.00 under 37 CFR §1.17(p) is enclosed, *or*
    ☐ The following certification is made:
        ☐ each item of information contained in this statement was cited in a communication from a foreign patent office in a counterpart foreign

application not more than three months prior to the filing of this statement, or

☐ no item of information contained in this statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the person signing the statement after making reasonable inquiry, no item of information contained in this statement was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this statement.

☐ This statement is filed on or before payment of the issue fee, the submission fee of $180.00 under 37 CFR §1.17(p) is enclosed, *and*

☐ each item of information contained in this statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement, or

☐ no item of information contained in this statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the person signing the statement after making reasonable inquiry, no item of information contained in this statement was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this statement.
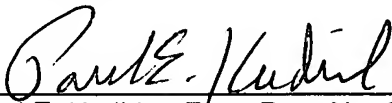
Payment
☐ A check in the amount of the submission fee is enclosed.
☐ Charge Account No. 02-3038 in the amount of the submission fee. A duplicate of this transmittal sheet is attached.

Authorization to Charge Additional Fees
☒ The Commissioner is hereby authorized to charge any additional fees under 37 C.F.R. §1.16 and §1.17 required by the attached paper and during the entire pendency of this application to Account No. 02-3038.

Respectfully submitted,

_____   Date: 12/15/05

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT   Sheet 1 of 4

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U.S. PATENT DOCUMENTS

Exam Inits	Cite No.	Patent Number	Kind Code	Patentee or Applicant Name	Issue Date
		20040003014	A1	NAGARAJAN, ET AL	01/01/04
		5,920,876	B1	UNGAR, ET AL.	07/06/99
		6,115,782	B1	WOLCZKO, ET AL.	09/05/00
		6,148,310	B1	AZAGURY, ET AL.	11/14/00
		6,173,294	B1	AZAGURY, ET AL.	01/09/01
		6,185,581	B1	GARTHWAITE	02/06/01
		6,226,653	B1	ALPERN, ET AL.	05/01/01
		6,243,720	B1	MUNTER, ET AL	06/05/01
		6,308,185	B1	GRARUP, ET AL.	10/23/01
		6,363,403	B1	ROY, ET AL.	03/26/02
		6,381,738	B1	CHOI, ET AL.	04/30/02
		6,424,977	B1	GARTHWAITE	07/23/02
		6,453,466	B1	EIDT, ET AL.	09/17/02
		6,457,019	B1	SEXTON, ET AL.	09/24/02
		6,490,599	B1	KOLODNER, ET AL.	12/03/02
		6,826,757	B1	STEELE, ET AL.	11/30/04
		6,845,437	B1	BORMAN, ET AL.	01/25/05
		6,868,488	B1	GARTHWAITE	03/15/05

FOREIGN PATENT DOCUMENTS

Exam Inits	Cite No.	Cy	Number	Kind Code	Patentee or Applicant Name	Publication Date	T
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OTHER PRIOR ART – NON PATENT LITERATURE AND DOCUMENTS

Exam Inits	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the articles (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T
		APPEL, "Simple Generational Garbage Collection and Fast Allocation", Software Practice and Experience, 19(2), 1989, 171-183	☐
		APPEL, ET AL., "Real-Time Concurrent Collection on Stock Multiprocessors", ACM SIGPLAN Notices, 1988	☐
		BACON, ET AL., "Java without the Coffee Breaks: A nonintrusive Multiprocessor Garbage Collector", SIGPLAN Conference on Programming Language Design and Implementation, June 2001, Snowbird, UT	☐
		BAKER, "List Processing in Real Time on a Serial Computer", Communications of the ACM 21, April 1978, 280-294	☐
		BROOKS, "Trading Data Space for Reduced Time and Code Space in Real-Time Garbage Collection on Stock Hardware", Proceedings of the 1984 Acm Symposium on Lisp and Funcional Programming, August 1984, 108-113, Austin, TX	☐
		CHILIMBI, ET AL., "Using Generational Garbage Collection to Implement Cache-Conscious Data Placement", International Symposium on Memory Management, October 1998	☐
		CLARK, ET AL., "Compacting Garbage Collection can be Fast and Simple", Software-Practice and Experience, Vol. 26, No. 2, February 1996, 177-194	☐
		COURTS, "Improving Locality of Reference in a Garbage-Collecting Memory Management System", Communications of the ACM, Vol. 31, No. 9, September 1988, 1128-1138	☐
		HERLIHY, ET AL., "Lock-Free Garbage Collection for Multiprocessors", ACM SPAA, 1991, 229-236	☐

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		HOLZLE, URS, "A Fast Write Barrier for Generational Garbage Collectors", Workshop on Garbage Collection in Object Oriented Systems, October 1993	☐
		HOSKING, ET AL., "Remembered Sets Can Also Play Cards", OOPSLA/ECOOP Workshop on Garbage Collection in Object-Oriented Systems, October 1993	☐
		HOSKING, ET AL., "Protection Traps and Alternatives for Memory Management of an Object-Oriented Language", Object Systems Laboratory, December 1993, 1-14, Dept. of Comp. Sci., Amherst, MA	☐
		HUDSON, ET AL., "Adaptive Garbage Collection for Modula-3 and Small Talk", OOPSLA.ECOOP '90 Workshop on Garbage Collection in Object-Oriented Systems, October 27, 1990	☐
		HUDSON, ET AL., "Sapphire: Copying GC Without Stopping the World", Java Grande/ISCOPE, 2001	☐
		JONES AND LINS, "Garbage Collection: Algorithms for Automatic Dynamic Memory Management", 1996, 165-179, John Wiley and Sons, NY	☐
		LIEBERMAN, ET AL., "A Real-Time Garbage Collector Based on the Lifetimes of Objects", Communications of the ACM, 1983, 26(6)	☐
		MOON, "Garbage Collection in a Large Lisp System", Conference Record of the 1984 ACM Symposium on LISP and Functional Programming, August 1984, 235-246, Austin, TX	☐
		NETTLES, SCOTT, "Real-Time Replication Garbage Collection", Avionics Lab, Wright Research and Development Center, 1993, PDDI	☐

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		SOBALVARRO, "A Lifetime-based Garbage Collector for LISP Systems on General-Purpose Computers", Department of Electrical Engineering and Computer Science at MIT, September 1988, AITR-1417	☐
		STAMOS, "Static Grouping of Small Objects to Enhance Performance of a Paged Virtual Memory", ACM Transactions on Computer Systems, Vol. 2, No. 2, May 1984, 155-180	☐
		UNGAR, "Generation Scavenging: A Non-Disruptive High Performance Storage Reclaration Algorithm", ACM SIGPLAN Notices, April 1984, 19(5)	☐
		WITHINGTON, P.T., "How Real is "Real-Time" GC?", Symbolics, Inc., October 6, 1991, Burlington, MA	☐
		ZORN, BENJAMIN, "Barrier Methods for Garbage Collection", Dept. of Computer Science, Uni. of Colorado, November 1990, 1-37, Boulder	☐
		HOSKING, ET AL., "A Comparative Performance Evaluation of Write Barrier Implementations", OOPSLA; ACM Conference on Object-Oriented Systems, Languages and Applications, October 1992, V. 27(10), ACM Press, Vancouver, Canada	☐
		LAM, ET AL., "Object Type Directed Garbage Collection to Improve Locality", Proceedings of the International Workshop on Memory Management, September 1992, 404-425, St. Malo, France	☐
		PIRINEN, PEKKA, "Barrier Techniques for Incremental Tracing", Harlequin Limited, Date Unknown, 20-25, Cambridge, Great Britain	☐
		WILSON, ET AL., "Effective Static-Graph Reorganization to Improve Locality in Garbage Collected Systems", Proceedings of ACM SIGPLAN Conference on Programming Language Design and Implementation, June 1991, Canada	☐
		DETLEFS, ET AL., "Concurrent Remembered Set Refinement in Generational Garbage Collection", Proceedings of the USENIX Java VM '02 Conference, August 1-2, 2002, 14 pages, San Francisco, CA, USA.	☐

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